

## **PRELIMINARY PROGRAM**

This is the preliminary (draft) conference program, and it is subject to change.  
The final program will be available on-site at the conference.

### **Subsurface Remediation: Improving Long-Term Monitoring and Remedial Systems Performance**

**Tuesday, June 8, 1999**

**4:00 - 7:00            Registration and Name Badge Pickup**

**6:00 - 8:00            Reception (cash bar)**

#### **Evening Workshops**

<b>TIME</b>	<b>TOPIC</b>	<b>WORKSHOP LEADER(S)</b>	<b>TOPIC</b>	<b>WORKSHOP LEADER(S)</b>	<b>TOPIC</b>	<b>WORKSHOP LEADER(S)</b>
<b>6:00 - 7:30</b>	<b>Biochlor / Bioscreen</b>	<b>Charles Newell, Ph.D., Groundwater Services, Inc.</b>	<b>Flow and Transport Optimization for Pump and Treat Systems</b>	<b>David Ahlfeld, Ph.D., Univ. of Massachusetts, and Richard Peralta, Ph.D., Utah State Univ.</b>	<b>Groundwater Modeling Systems (GMS)</b>	<b>Earl V. Edris, USAE Waterways Experiment Station</b>
<b>8:00 - 9:30</b>	<b>Biochlor / Bioscreen (repeat session)</b>	<b>Charles Newell, Ph.D., Groundwater Services, Inc.</b>	<b>Flow and Transport Optimization for Pump and Treat Systems (repeat session)</b>	<b>David Ahlfeld, Ph.D., Univ. of Massachusetts, and Richard Peralta, Ph.D., Utah State Univ.</b>		

**Day 1 - Wednesday, June 9, 1999**

**ST. LOUIS BALLROOM F-H**

**PLENARY SESSION**

*Moderator: Walter W. Kovalick, Jr., Ph.D., Chairman  
Federal Remediation Technologies Roundtable*

- 7:30 - 9:00**            **Registration and Name Badge Pickup**
- 9:00 - 9:30**            **Welcome & Overview**  
*Walter W. Kovalick, Jr., Ph.D., Chairman  
Federal Remediation Technologies Roundtable*
- 9:30 - 10:00**          **Getting to Site Closeout**  
*Karla Perri, DUSD/ES CL*
- 10:00 - 10:20**        **Remedial Systems Optimization Within the Site Closeout Process**  
*Mario E. Ierardi, US Air Force*
- 10:20 - 10:40**        **BREAK**

**CASE STUDIES SESSION: Evaluating Remediation and Long-Term Monitoring**  
*Moderator: Dave Becker, US Army Corps of Engineers, and  
Doug Zillmer, Naval Facilities Engineering Service Center*

- 10:40 - 11:20**        **Application of SMART Site at the Naval Industrial Reserve Ordnance Plant (NIROP), Fridley, MN: A Case Study**  
*Richard Cronce, Ph.D., SAIC, and  
Scott Glass, Southern Division, Naval Facilities Engineering Command*
- 11:20 - 12:00**        **US Army Corps of Engineers Remediation System Evaluation Case Studies**  
*Dave Becker, US Army Corps of Engineers*
- 12:00 - 1:30**            **LUNCH**
- 1:30 - 2:10**            **US EPA, Technology Innovation Office Demonstration Project of Hydraulic Optimization Modeling at Existing Pump and Treat Systems**  
*Rob Greenwald, HSI Geotrans*
- 2:10 - 2:50**            **Long-Term Monitoring and Optimization of an Air Force Pump and Treat Facility**  
*Philip Hunter, AFCEE*
- 2:50 - 3:10**            **BREAK**

- 3:10 - 3:50**      **The Benefits of Remediation System Audits: Several Case Studies for the Private Sector**  
*Ellen Moyer, Ph.D., ENSR*
- 3:50 - 4:30**      **Long-Term Monitoring Optimization at Naval Air Station, Brunswick, ME**  
*Naval Air Station, Brunswick, ME, Restoration Team*

**6:00 - 8:00**      **Reception (cash bar)**

### Evening Workshops

TIME	TOPIC	WORKSHOP LEADER(S)	TIME	TOPIC	WORKSHOP LEADER(S)	TOPIC	WORKSHOP LEADER(S)
6:30 - 8:00	Optimization of Long-Term Monitoring Costs Via Statistical and Geostatistical Thinking	Maureen Ridley, Lawrence Livermore National Laboratory, and Cary Tuckfield, West Savannah River Center	6:30 - 9:00	Case Studies of Source Control Coupled With Monitored Natural Attenuation	Patrick Haas, AFCEE	Emerging Monitoring Techniques and Future Research Needs	John D. (Jack) Ditmars, Ph.D., Argonne National Laboratory
8:15 - 9:30	Optimization of Long-Term Monitoring Costs Via Statistical and Geostatistical Thinking (repeat session)	Maureen Ridley, Lawrence Livermore National Laboratory, and Cary Tuckfield, West Savannah River Center					

## Day 2 - Thursday, June 10, 1999

7:30 - 9:00 Registration and Name Badge Pickup

TRACK ROOM	LONG-TERM MONITORING OPTIMIZATION  ST. LOUIS BALLROOM F		SYSTEMS PERFORMANCE ASSESSMENT AND OPTIMIZATION ST. LOUIS BALLROOM G-H	
SESSION Moderator	DATA QUALITY OBJECTIVES AND LTM GUIDANCE Kathleen Yager, US EPA		SOIL VAPOR EXTRACTION AND AIR SPARGING Dave Becker, US Army Corps of Engineers	
TIME	PRESENTATION	SPEAKER(S)	PRESENTATION	SPEAKER(S)
8:00 - 8:30			Development of an EPA Soil Vapor Extraction Optimization Guide	Jim Cummings, US EPA and Ralph Baker, ENSR
8:30 - 9:00	Data Quality Objectives	John Warren, US EPA	Soil Venting Performance and Closure Considerations	Dominic DiGiulio, Ph.D., US EPA
9:00 - 9:30	Remedial Systems Optimization and Long- Term Monitoring Guidance Documents	Maj. Daniel Welch, Defense Logistics Agency	Air Sparging Research and Protocol	Richard Johnson, Ph.D., Oregon Graduate Institute
	MONITORING NETWORKS AND SAMPLING Philip Hunter, AFCEE			
	PRESENTATION	SPEAKER(S)		
9:30 - 10:00	Statistical Methods Useful in Assessment Monitoring and Corrective Action Programs	Robert Gibbons, Ph.D., University of Illinois	SVE Optimization Using PneuLog™ at Air Force Installations	Lloyd D. Stewart, Ph.D., P.E., Praxis Environmental Technologies
10:00 - 10:15	BREAK			
10:15 - 10:45	Using the DQO Process to Revise a Groundwater Monitoring Program at a DoD Facility	Nancy Hassig, Battelle, Pacific Northwest Laboratories	PERMEABLE REACTIVE BARRIERS Paul Leonard, US EPA Region 3, and Stephen White, US Army Corps of Engineers	
			PRESENTATION	SPEAKER(S)
10:15 - 10:45			Long-Term Performance and Assessment Monitoring at the USCG Site in Elizabeth City, NC	Robert Puls, Ph.D., US EPA
10:45 - 11:45	Optimization of LTM Networks: Statistical Approaches to Spatial and Temporal Redundancy at an Air Force Installation	Kirk Cameron, Ph.D., MacStat Consulting	Long-Term Monitoring Results From the PRW at the Denver Federal Center	Tony Ranalli, US Geological Survey

## Day 2 - Thursday, June 10, 1998 (Continued)

TRACK ROOM	LONG-TERM MONITORING OPTIMIZATION  ST. LOUIS BALLROOM F		SYSTEMS PERFORMANCE ASSESSMENT AND OPTIMIZATION ST. LOUIS BALLROOM G-H	
SESSION Moderator	MONITORING NETWORKS AND SAMPLING <i>Philip Hunter, AFCEE</i>		PERMEABLE REACTIVE BARRIERS <i>Paul Leonard, US EPA Region 3, and Stephen White, US Army Corps of Engineers</i>	
TIME	PRESENTATION	SPEAKER(S)	PRESENTATION	SPEAKER(S)
11:45 - 12:15	Optimizing a Groundwater Monitoring Network for Assessing Air Sparging Effectiveness on BTEX and MTBE	Steve Naber, Ph.D., Battelle Memorial Institute	Zero Valent Iron Technology and Research the Univ. of Waterloo is Doing at Borden	Bob Gillham, Ph.D., University of Waterloo
12:15 - 1:30	LUNCH			
1:30 - 2:00	Decision Support Software for Designing Long-Term Monitoring Plans	Charles Newell, Ph.D., Groundwater Services, Inc.	DOE/DOD/EPA Collaborative Research on the Long-Term Performance of Permeable Reactive Barriers	Nic Korte, US DOE
2:00 - 2:30	Use of Diffusion Samplers as an Inexpensive Approach to Monitoring VOCs in Groundwater	Don Vroblesky, Ph.D., US Geological Survey	Performance Monitoring of the Permeable Reactive Barrier at the Somersworth, NH, Landfill Superfund Site	Timothy Sivavec, Ph.D., General Electric CRD
	DATA ASSESSMENT AND MANAGEMENT TBD			
	PRESENTATION	SPEAKER(S)		
2:30 - 3:00	Rapid Access Tools: Key to Integrated Use of Environmental Characterization and Monitoring Information	Maureen Ridley, Lawrence Livermore National Laboratory	Department of Defense Permeable Reactive Barrier Demonstration Results & Future Plans	Charles Reeter, Naval Facilities Engineering Service Center
3:00 - 3:15	BREAK			
3:15 - 3:45	Data Quality Requirements and Issues Associated with Long Term Monitoring for Field Technology Evaluations	Joe Evans, SAIC	LTM OF MONITORED NATURAL ATTENUATION: GUIDANCE AND CASE STUDIES <i>Herb Levine, US EPA</i>	
			PRESENTATION	SPEAKER(S)
			Air Force LTM Methodology and Approach for Monitored Natural Attenuation	Patrick Haas, AFCEE

## Day 2 - Thursday, June 10, 1998 (Continued)

TRACK ROOM	LONG-TERM MONITORING OPTIMIZATION ST. LOUIS BALLROOM F		SYSTEMS PERFORMANCE ASSESSMENT AND OPTIMIZATION ST. LOUIS BALLROOM G-H	
SESSION Moderator	DATA ASSESSMENT AND MANAGEMENT TBD		LTM OF MONITORED NATURAL ATTENUATION: GUIDANCE AND CASE STUDIES Herb Levine, US EPA	
TIME	PRESENTATION	SPEAKER(S)	PRESENTATION	SPEAKER(S)
3:45 - 4:15	How the Badger Army Ammunition Plant Saved \$400,000 in Long-Term Monitoring Costs	John Hansen, Olin Corporation	Evaluation of Natural Attenuation at the KL Landfill	Varadhan Ravi, Dynamac Corporation
4:15 - 4:45	Sample Size Determination and Computation of the 95% Upper Confidence Limit of the Mean in Environmental Applications	Anita Singh, Ph.D., Lockheed Martin Environmental Systems and Technologies Co.	Evaluation of Natural Attenuation of Explosives in Groundwater	Judy Pennington, US Army Corps of Engineers
4:45 - 5:15	Some Alternative Statistical Procedures for Environmental Data Analysis	A. K. Singh, Ph.D., University of Las Vegas	EPA Technical Guidance on Long-Term Monitoring for Monitored Natural Attenuation	Herb Levine, US EPA

5:00 - 6:30 Reception (cash bar)

## Day 3 - Friday, June 11, 1999

8:00 - 8:30

Registration, Name Badge Pickup

TRACK	LONG-TERM MONITORING OPTIMIZATION					SYSTEMS PERFORMANCE ASSESSMENT AND OPTIMIZATION	
ROOM	ST. LOUIS BALLROOM F		ST. LOUIS BALLROOM G			ST. LOUIS BALLROOM H	
SESSION	ANALYTICAL ISSUES		SESSION	IN SITU / REMOTE SENSORS AND NETWORKS		BIOREMEDIATION AND PHYTOREMEDIATION	
Moderator	Barry Lesnik, US EPA		Moderator	Grover (Skip) Chamberlain, US DOE		Scott Beckman, Ph.D., SAIC	
TIME	PRESENTATION	SPEAKER(S)	TIME	PRESENTATION	SPEAKER(S)	PRESENTATION	SPEAKER(S)
8:00 - 8:40	Analytical Strategy: What Should Be Included in a Sampling and Analysis Plan Under PBMS	Barry Lesnik, US EPA	8:00 - 8:30	Advanced Chemical Sensors for Monitoring of Organic Solvents in Groundwater	Radislav A. Potyrailo, Ph.D., GE Corporate R&D	Phytoremediation Performance Monitoring: Hydrologic and Geochemical Assessments	Scott Beckman, Ph.D., SAIC
8:40 - 9:20	Sample Collection and Handling Alternatives for VOC Soil Characterization: Method 5035	Alan Hewitt, US Army Corps of Engineers	8:30 - 9:00	Remote Sensing Assessment Usage in Long-Term Monitoring of Phytoremediation Field Sites	Suzette R. Burkhard, Ph.D., South Dakota State University	Optimization, Uncertainty, and Risk Analysis of Design and Operation of <i>In Situ</i> Bioremediation	Christine Shoemaker, Ph.D., Cornell University
9:20 - 10:00	Environmental Applications of NRL's Continuous Flow Immunosensor	Lisa Shriver-Lake, Naval Research Laboratory	9:00 - 9:30	Long-Term Monitoring of Subsurface Barrier Integrity: Current Technology Capabilities and Limitations	David E. Daniel, Ph.D., University of Illinois	<i>In Situ</i> Reactive Zones: Enhancement of Natural Bioremediation Processes	Suthan S. Suthersan, Ph.D., P.E., ARCADIS Geraghty Miller Inc.
			9:30 - 10:00	Monitoring Landfill Covers	Steve Dwyer, Sandia National Laboratories	Monitoring Performance of an Enhanced <i>In Situ</i> Bioremediation Field Evaluation	Kent Sorenson, Lockheed Martin Idaho Technologies Company
10:00 - 10:15	BREAK						

## Day 3 - Friday, June 11, 1999 (Continued)

TRACK	LONG-TERM MONITORING OPTIMIZATION					SYSTEMS PERFORMANCE ASSESSMENT AND OPTIMIZATION	
ROOM	ST. LOUIS BALLROOM F		ST. LOUIS BALLROOM G			ST. LOUIS BALLROOM H	
SESSION	DATA PRESENTATION / VISUALIZATION		SESSION	IN SITU / REMOTE SENSORS AND NETWORKS		ABOVE GROUND TREATMENT SYSTEMS	
Moderator	Doug Zillmer, Naval Facilities Engineering Service Center, and David Burden, Ph.D., US EPA		Moderator	Grover (Skip) Chamberlain, US DOE		John D. (Jack) Ditmars, Ph.D., Argonne National Laboratory	
TIME	PRESENTATION	SPEAKER(S)	TIME	PRESENTATION	SPEAKER(S)	PRESENTATION	SPEAKER(S)
10:15 - 11:15	Status and Example Applications of the DoD Groundwater Modeling System	Earl V. Edris, USAE Waterways Experiment Station	10:15 - 10:45	Long-Term Monitoring of Soil Pore Liquids and Groundwater	Lorne Everett, Ph.D., ARCADIS Geraghty and Miller	Process Optimization of Remedial Systems	Sarabjit Singh, URS Greiner Woodward Clyde
			10:45 - 11:15	Short-Term and Long-Term Vadose Zone Monitoring: Current Technologies, Development, and Application	Boris Fabysenko, Lawrence Berkeley National Laboratory	Optimization at the Milan Army Ammunition Plant	Lindsey Lien, US Army Corps of Engineers
11:15 - 12:15	Practical Applications of GIS in Support of LTM/LTO Programs	Francis Slavich, Radian International LLC	11:15 - 11:45	Network Array of Sensors for Groundwater Monitoring Using the Environmental Systems Management, Analysis, and Reporting Network (E-SMART) System	Steve Leffler, Ph.D., General Atomics	Optimization at a Superfund Site in Michigan	Ted Streckfuss, US Army Corps of Engineers
			11:45 - 12:15	Direct Push Technologies Recent Demonstrations	Bruce Nielson, Tyndall AFB	Performance Assessment of an SVE System	Zhenhua Jiang, Ph.D., Argonne National Laboratory
12:15 - 12:30	Conference Adjourns		12:15 - 12:45	Results From a One-Year Field Trial of an Automated Down-Hole Radiation Monitoring System	Garry Roman, McDermott Technologies	Conference Adjourns	
			12:45	Conference Adjourns			



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